SBIR/STTR Session 7

PFC Meeting – PPPL, Princeton, NJ – 9-11 May 2005

Progress reports on funded projects
(a $1.9 M investment in pfcs)

presentations

Computation of MHD flows using the Lattice Boltzmann Method

Martin Pattison (Metaheuristics, LLC)

Phase-II-non-uniform grid, LES, end of June release, fast solver, need more v&v to simple fusion problems

Applications and development of HIMAG as a tool in nuclear fusion

Ramakanth Munipalli (Hypercomp, Inc.)

Phase I ended in April, PhaseII til July 2006, licensing agreement
Good v&v effort, needs 2d turbulence, need bridge from low to high Ha

Engineered surfaces for the Lithium Tokamak eXperiment

Scott O'Dell (Plasma Processes, Inc.)

Phase-I. Success in containing Li in porous Mo during wetting tests
70% porous Mo, ss. Wetting below 300C
Phase-II proposal - Impact on LTX plans

ITER ELM Plasma Simulator

  Robert Stubbers (Starfire Industries, LLC)

Phase-I system assembled, Helicon source coupled to conical pinch at 1kG pulses to 1 T. Pulse train simulates ELMS reasonably well.

Phase-II proposal for larger system connected to FLiRE. Need lower inductance (50 nH) caps

Tunable heterodyne interferometer to measure atomic hydrogen

  John Moschella (HYTech Research, Inc.)

Phase-I from Diagnostics solicitation, but applicable to edge plasma.

May be useful to measure H density near lithium stream. Could possibly used for carbon densities as well.

Phase-II proposal teamed with GA for possible use on DIII-D. May be of interest to NSTX and CMOD as well.